



## ENVIRONMENTAL, HEALTH, AND SAFETY RESEARCH NEEDS AND PRIORITIZATION FOR ENGINEERED NANOSCALE MATERIALS

Norris E. Alderson, PhD  
Chairman, Nanotechnology Environmental and  
Health Implications Working Group



## NEHI WORKING GROUP

- Formed in August 2003
- Multi-agency working group of the NSET Subcommittee
- Meets - monthly - 30 participants from 24 agencies
- Members from research and regulatory agencies
- Purposes
  - ✦ Provide forum for and promote exchange of information related to EHS research on nanotechnology among all agencies
  - ✦ Facilitate identification, prioritization, and implementation of EHS research on nanotechnology

*composed of  
regulatory &  
research  
agencies*



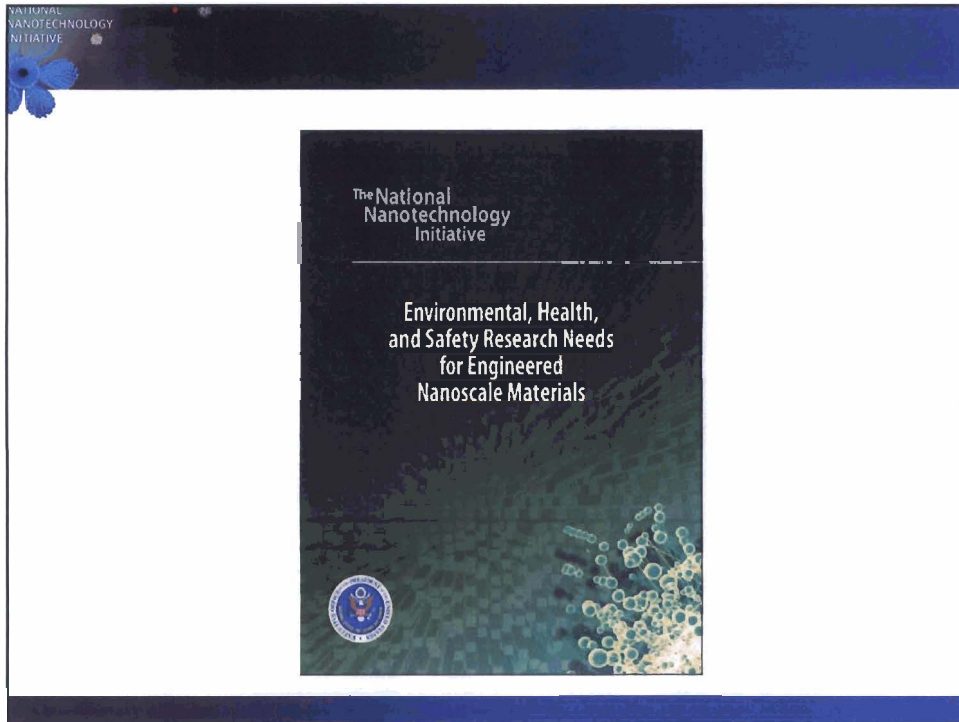
## NNI FUNDING OF EHS RESEARCH

- EHS research funded since NNI inception in 2001
- \$35 million in 2005
- \$38 million in 2006
- \$46 million for 2007 (estimated)
- \$59 million for 2008 (requested)
- Does not include research to develop new instrumentation, metrology for measuring exposure to and for characterizing engineered nanomaterials
- Does not include research on fundamental interactions of nanoengineered materials w/biosystems



## NEHI OBJECTIVES

- Enable better communication of information related to environmental and health aspects of nanotechnology by the NNCO, NSET Subcommittee, and individual agencies.
- Assist in the development of information and strategies as a basis for the drafting of guidance in the safe handling and use of nanoproducts by researchers, workers, and consumers.
- With input from the NSET Subcommittee and other appropriate interagency groups, support the development of tools and methods to identify and prioritize specific research to enable risk analysis and regulatory decision-making for nanoproducts.
- Support development of nanotechnology standards, including nomenclature and terminology, by consensus-based standards organizations.



**DEFINITIONS**

Engineered nanoscale materials, or nanomaterials, are those that have been purposefully manufactured or synthesized to have a size with at least one dimension in the range of approximately 1-100 nm and that exhibit unique properties determined by this size. *In this document, when the term "nanomaterials" is used alone, it refers to engineered nanoscale materials.*

The acronym "EHS" will be used in this document as shorthand for the collection of fields associated with the terms "environmental health, human health, animal health, and safety" when used in the context of risk assessment and risk management.

Nano: TP

## INTERAGENCY RESEARCH NEEDS DOCUMENT

- Identifies EHS research and information needs
- Reflects input from NNI regulatory and research agencies, industry, and various reports worldwide on EHS research priorities
- Identifies 5 categories of research with over 75 specific research and information needs
- Used to guide program and funding decisions by Federal agencies
- Used by regulatory agencies as component of risk assessment and management decision making
- Value to industry, universities and non-government research organizations

Rick Canady,  
FDA, leads  
Risk Assmt  
category.

## NSET NEXT STEPS

- Prioritize the research needs within the research areas
- Public meeting on needs and prioritization (done)
- Evaluate the current EHS portfolio of NNI
- Perform "gap analysis"
- Public meeting? *and*
- Coordinate and facilitate research programs among the NNI agencies to address priorities
- Regular updates of priorities

DYNAMIC, OPEN, TRANSPARENT PROCESS

data call  
this week:  
due 1st week of  
April.

2 pgs of document  
1st / 2nd: workplace safety



**THANK YOU**